

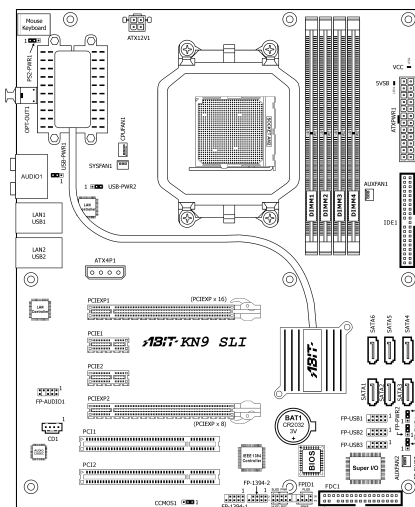
KN9 SLI KN9 Ultra KN9S

**Motherboard
AMD Socket AM2**

User's Manual

About this Manual:

This user's manual contains all the information you may need for setting up this motherboard. To read the user's manual of PDF format (readable by [Adobe Reader](#)), place the "Driver & Utility CD" into the CD-ROM drive in your system. The auto-run screen will appear, click the "Manual" tab to enter its submenu. If not, browse the root directory of the CD-ROM via the File Manager, and double click the "AUTORUN" file.



- ☐ **AMD Socket AM2
ATX Motherboard**
- ☐ **NVIDIA Chipset:
MCP55P/MCP55Ultra/MCP55S**
- ☐ **2GHz HT**
- ☐ **Dual DDR2 800 DIMM Slots**
- ☐ **NVIDIA SLI Technology**
- ☐ **Dual PCI-E X16 Slots**
- ☐ **Dual GbE LAN**
- ☐ **IEEE 1394a**
- ☐ **6x SATA 3Gb/s with
RAID 0/1/0+1/5/JBOD**
- ☐ **ABIT Silent OTEST™ Technology**
- ☐ **7.1 Channel HD Audio**

* See the "Features & Specifications" of each model in this manual for details.

Introduction

Hardware Setup

BIOS Setup

Driver & Utility CD

Appendix

KN9 SLI, KN9 Ultra, KN9S

User's Manual

English, 1st Edition

May, 2006

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If you do not properly set the motherboard settings, causing the motherboard to malfunction or fail, we cannot guarantee any responsibility.

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1. Introduction

1.1 Features & Specifications

CPU

- Supports Socket M2 940 Processor with 2GHz system bus using Hyper Transport™ Technology
- Supports AMD CPU Cool 'n' Quiet Technology

Chipset

- **KN9 SLI:** NVIDIA® MCP55P Chipset
- **KN9 Ultra:** NVIDIA® MCP55Ultra Chipset
- **KN9S:** NVIDIA® MCP55S Chipset

Memory

- Four 240-pin DIMM slots
- Supports Dual Channel DDR2 800 Un-buffered ECC/Non-ECC memory
- Supports maximum memory capacity up to 8GB

ABIT Engineered

- SoftMenu™ Technology
- CPU ThermalGuard™ Technology
- Silent OTES™ Technology

NVIDIA SLI Technology *(For model "KN9 SLI" only)*

- Two PCI-Express X16 slots support NVIDIA Scalable Link Interface

SATA 3Gb/s RAID

- Supports 6 ports NV SATA 3Gb/s RAID 0/1/0+1/5/JBOD *(For model "KN9 SLI" and "KN9 Ultra" only)*
- Supports 4 ports NV SATA 3Gb/s RAID 0/1/0+1/JBOD *(For model "KN9S" only)*

GbE LAN

- Dual NVIDIA® Gigabit Ethernet *(For model "KN9 SLI" and "KN9 Ultra" only)*
- NVIDIA® Gigabit Ethernet *(For model "KN9S" only)*

IEEE 1394 *(For model "KN9 SLI" and "KN9 Ultra" only)*

- Supports 2 Ports IEEE 1394a at 400Mb/s transfer rate

Audio

- Onboard 7.1 CH HD Audio CODEC
- Supports auto jack sensing
- Supports optical S/PDIF Out *(For model "KN9 SLI" and "KN9 Ultra" only)*

Expansion Slots

- **KN9 SLI:**
 - 2x PCI-E X16 slots
 - 2x PCI-E X1 slots
 - 2x PCI slots
- **KN9 Ultra, KN9S:**
 - 1x PCI-E X16 slot
 - 3x PCI-E X1 slots
 - 2x PCI slots

Internal I/O Connectors

- 1x Floppy port
- 1x UDMA 133/100/66/33 connector
- 4x SATA (SATA1 ~ SATA4) connectors (*For model "KN9S" only*)
- 6x SATA (SATA1 ~ SATA6) connectors (*For model "KN9 SLI" and "KN9 Ultra" only*)
- 3x USB 2.0 headers
- 2x IEEE1394a headers (*For model "KN9 SLI" and "KN9 Ultra" only*)

Rear Panel I/O

- ABIT Silent OTES™
- 1x PS/2 Keyboard connector
- 1x PS/2 Mouse connector
- 1 x S/PDIF Out (*For model "KN9 SLI" and "KN9 Ultra" only*)
- 1x Audio Connector (Surround-Left / Surround-Right, Rear-Left / Rear-Right, Center/Subwoofer, Mic-In, Line-In, Line-Out)
- 1x RJ-45 Gigabit LAN (LAN1) port (*For model "KN9S" only*)
- 2x RJ-45 Gigabit LAN (LAN1, LAN2) ports (*For model "KN9 SLI" and "KN9 Ultra" only*)
- 4x USB 2.0 ports

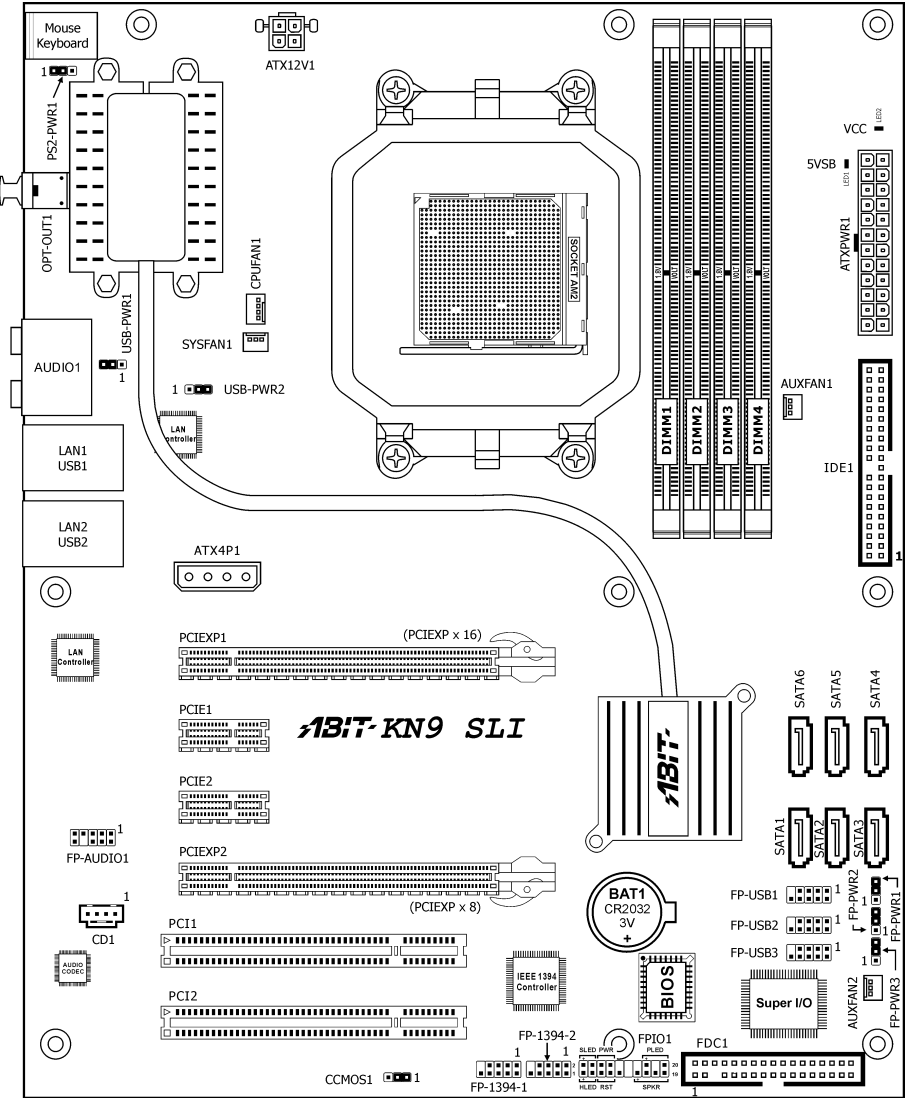
Miscellaneous

- ATX form factor (305mm x 245mm)

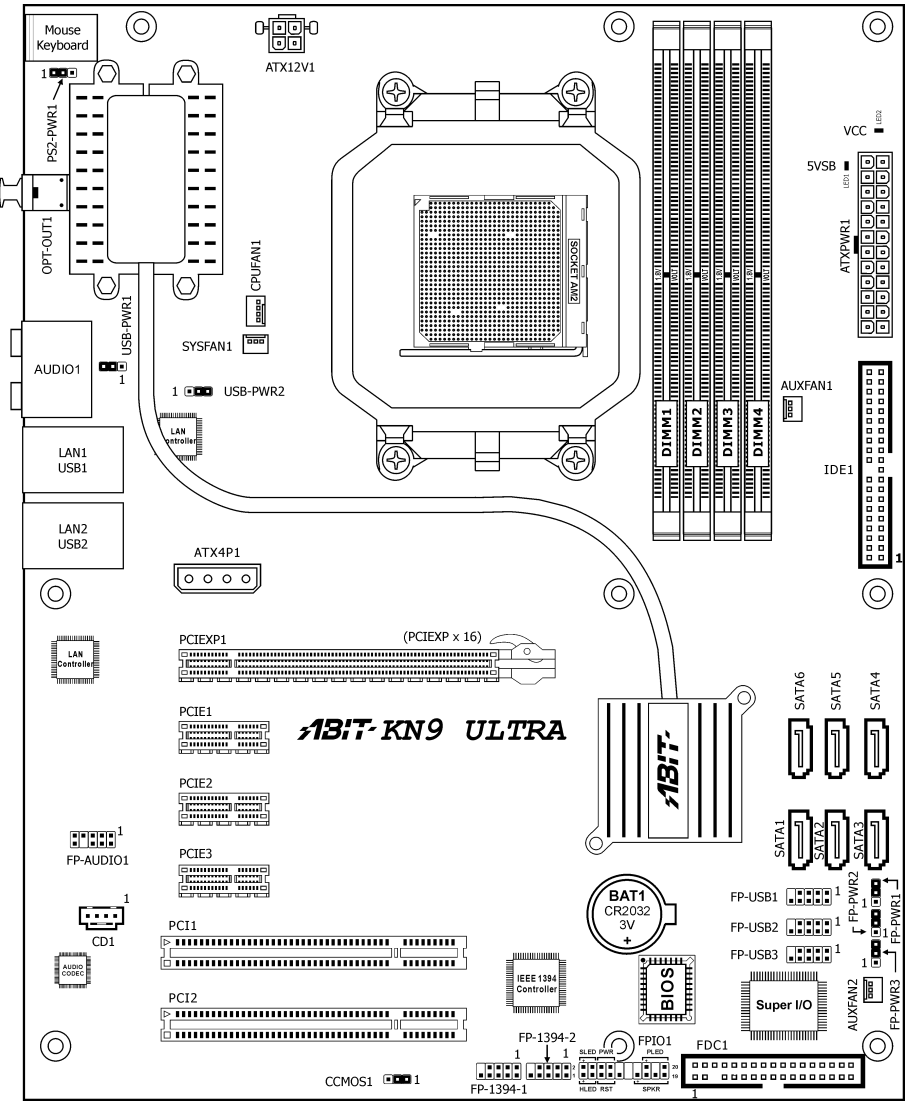
※ **Specifications and information contained herein are subject to change without notice.**

1.2 Motherboard Layout

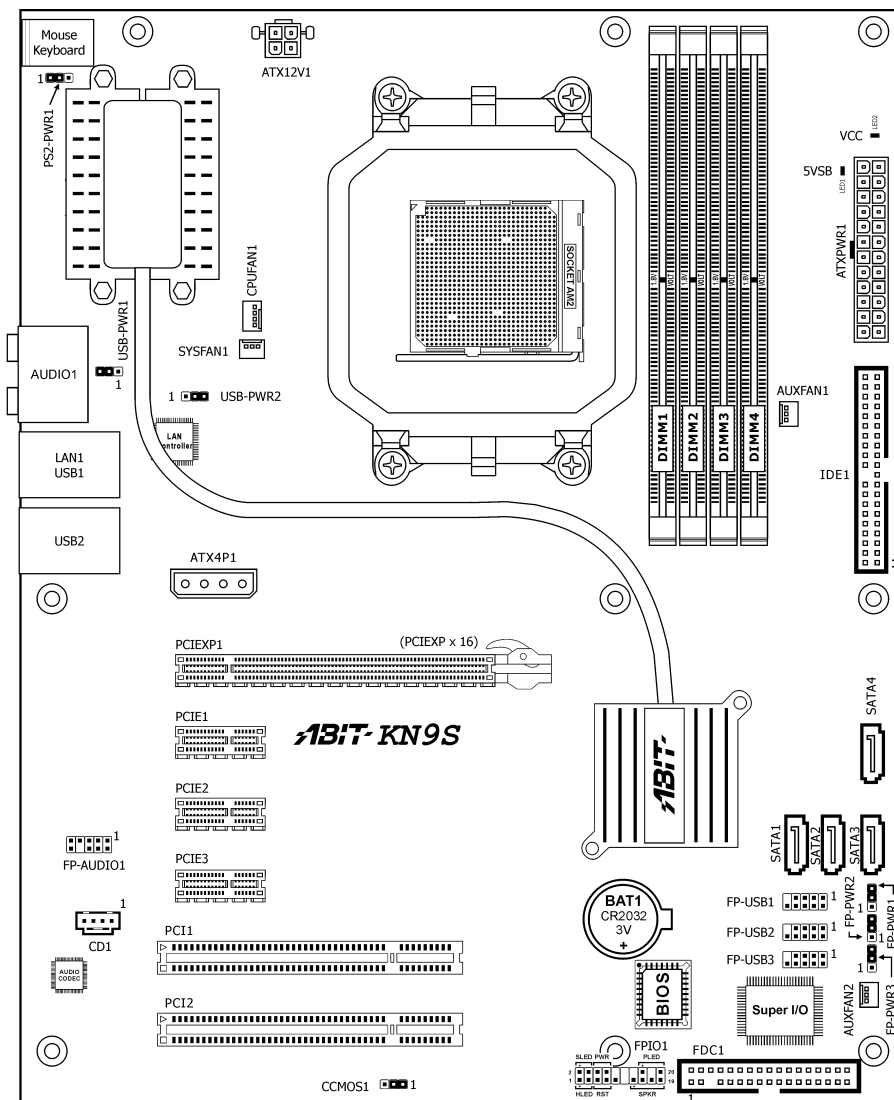
1.2.1 KN9 SLI



1.2.2 KN9 Ultra



1.2.3 KN9S



[illegible]

2. Hardware Setup

In this chapter we will elaborate all the information you need upon installing this motherboard to your computer system.

- ✖ **Always power off the computer and unplug the AC power cord before adding or removing any peripheral or component. Failing to do so may cause severe damage to your motherboard and/or peripherals. Plug in the AC power cord only after you have carefully checked everything.**
- ✖ **Unless stated additionally, the motherboard layout in this chapter relies mainly on KN9 SLI.**

2.1 Choosing a Computer Chassis

- This motherboard carries an ATX form factor of 305 x 245 mm. Choose a chassis big enough to install this motherboard.
- As some features for this motherboard are implemented by cabling connectors on the motherboard to indicators and switches or buttons on the chassis, make sure your chassis supports all the features required.
- If there is possibility of adopting some more hard drives, make sure your chassis has sufficient power and space for them.
- Most chassis have alternatives for I/O shield located at the rear panel. Make sure the I/O shield of the chassis matches the I/O port configuration of this motherboard. You can find an I/O shield specifically designed for this motherboard in its package.

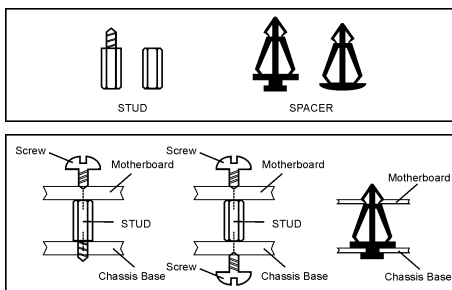
2.2 Installing Motherboard

Most computer chassis have a base with many mounting holes to allow the motherboard to be securely attached, and at the same time, prevent the system from short circuits. There are two ways to attach the motherboard to the chassis base:

1. use studs, or
2. use spacers

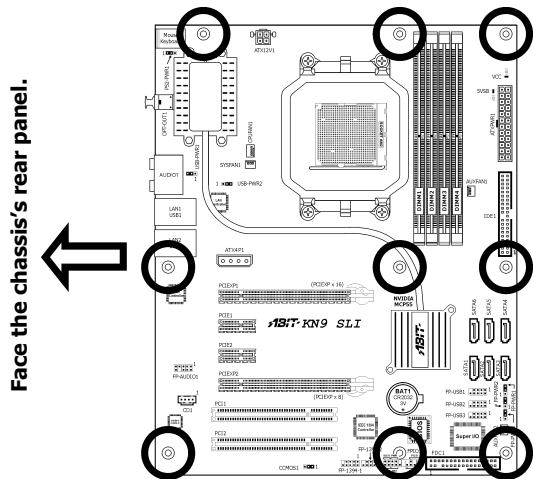
In principle, the best way to attach the board is to use studs. Only if you are unable to do this should you attach the board with spacers.

Line up the holes on the board with the mounting holes on the chassis. If the holes line up and there are screw holes, you can attach the board with studs. If the holes line up and there are only slots, you can only attach with spacers. Take the tip of the spacers and insert them into the slots. After doing this to all the slots, you can slide the board into position aligned with slots. After the board has been positioned, check to make sure everything is OK before putting the chassis back on.



To install this motherboard:

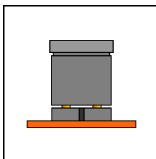
1. Locate all the screw holes on the motherboard and the chassis base.
2. Place all the studs or spacers needed on the chassis base and have them tightened.
3. Face the motherboard's I/O ports toward the chassis's rear panel.
4. Line up all the motherboard's screw holes with those studs or spacers on the chassis.
5. Install the motherboard with screws and have them tightened.



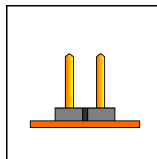
※ To prevent shorting the PCB circuit, please REMOVE the metal studs or spacers if they are already fastened on the chassis base and are without mounting-holes on the motherboard to align with.

2.3 Checking Jumper Settings

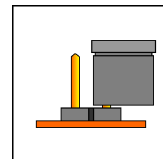
For a 2-pin jumper, plug the jumper cap on both pins will make it CLOSE (SHORT). Remove the jumper cap, or plug it on either pin (reserved for future use) will leave it at OPEN position.



SHORT

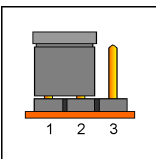


OPEN

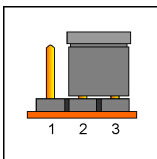


OPEN

For 3-pin jumper, pin 1~2 or pin 2~3 can be shorted by plugging the jumper cap in.



Pin 1~2 SHORT



Pin 2~3 SHORT

2.3.1 CMOS Memory Clearing Header and Backup Battery

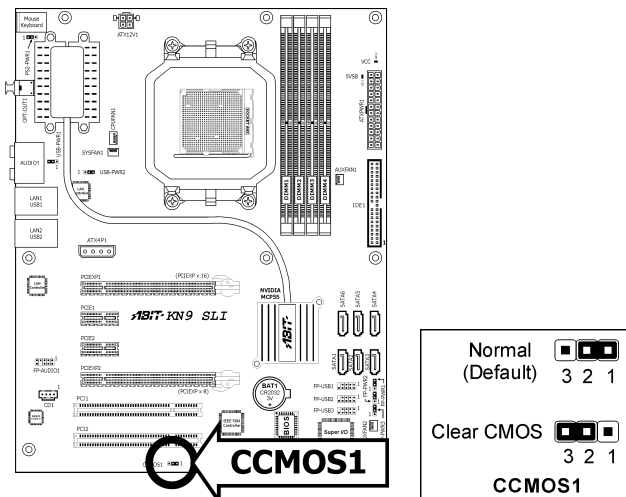
The time to clear the CMOS memory occurs when (a) the CMOS data becomes corrupted, (b) you forgot the supervisor or user password preset in the BIOS menu, (c) you are unable to boot-up the system because the CPU ratio/clock was incorrectly set in the BIOS menu.

This header uses a jumper cap to clear the CMOS memory and have it reconfigured to the default values stored in BIOS.

- **Pins 1 and 2 shorted (default):** Normal operation.
- **Pins 2 and 3 shorted:** Clear CMOS memory.

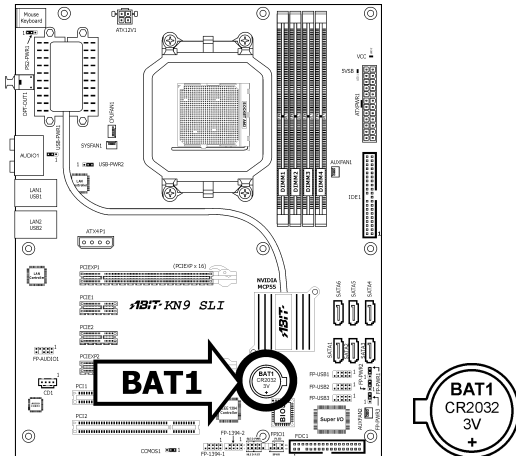
To clear the CMOS memory and load in the default values:

1. Power off the system and disconnect with AC power source.
2. Set pin 2 and pin 3 shorted by the jumper cap. Wait for a few seconds. Set the jumper cap back to its default settings --- pin 1 and pin 2 shorted.
3. Power on the system.
4. For incorrect CPU ratio/clock settings in the BIOS, press key to enter the BIOS setup menu right after powering on system.
5. Set the CPU operating speed back to its default or an appropriate value.
6. Save and exit the BIOS setup menu.



CMOS Backup Battery:

An onboard battery saves the CMOS memory to keep the BIOS information stays on even after disconnected your system with power source. Nevertheless, this backup battery exhausts after some five years. Once the error message like "**CMOS BATTERY HAS FAILED**" or "**CMOS checksum error**" displays on monitor, this backup battery is no longer functional and has to be renewed.



To renew the backup battery:

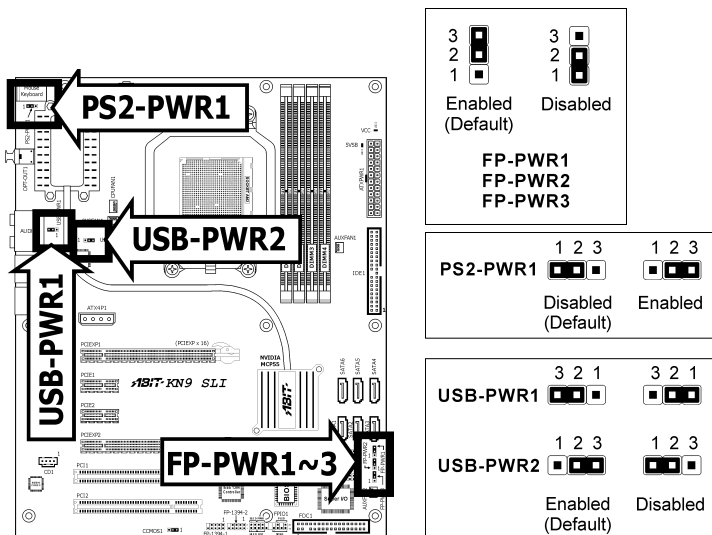
1. Power off the system and disconnect with AC power source.
2. Remove the exhausted battery.
3. Insert a new CR2032 or equivalent battery. Pay attention to its polarity. The "+" side is its positive polarity.
4. Connect AC power source and power on the system.
5. Enter the BIOS setup menu. Reconfigure the setup parameters if necessary.

CAUTION:

- ※ **Danger of explosion may arise if the battery is incorrectly renewed.**
- ※ **Renew only with the same or equivalent type recommended by the battery manufacturer.**
- ※ **Dispose of used batteries according to the battery manufacturer's instructions.**

2.3.2 Wake-up Headers

These headers use a jumper cap to enable/disable the wake-up function.

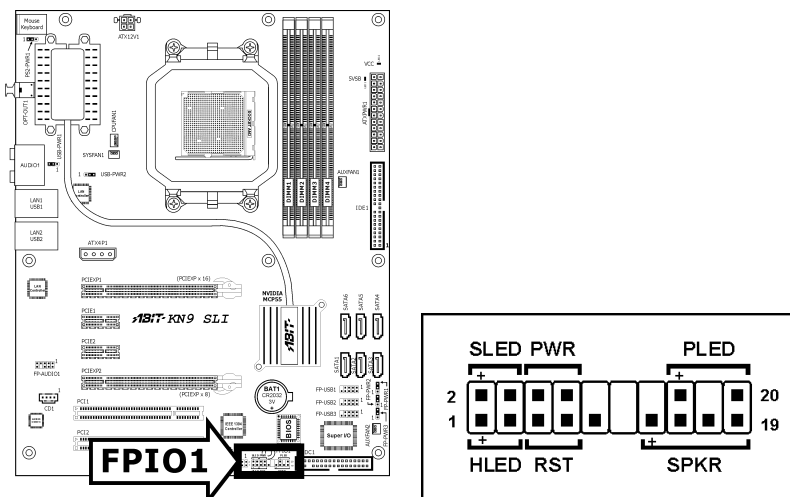


- PS2-PWR1:**
 Pin 1-2 shorted (Default): Disable wake-up function support at Keyboard/Mouse port.
 Pin 2-3 shorted: Enable wake-up function support at Keyboard/Mouse port.
- USB-PWR1:**
 Pin 1-2 shorted: Disable wake-up function support at USB1 port.
 Pin 2-3 shorted (Default): Enable wake-up function support at USB1 port.
- USB-PWR2:**
 Pin 1-2 shorted: Disable wake-up function support at USB2 port.
 Pin 2-3 shorted (Default): Enable wake-up function support at USB2 port.
- FP-PWR1:**
 Pin 1-2 shorted: Disable wake-up function support at FP-USB1 port.
 Pin 2-3 shorted (Default): Enable wake-up function support at FP-USB1 port.
- FP-PWR2:**
 Pin 1-2 shorted: Disable wake-up function support at FP-USB2 port.
 Pin 2-3 shorted (Default): Enable wake-up function support at FP-USB2 port.
- FP-PWR3:**
 Pin 1-2 shorted: Disable wake-up function support at FP-USB3 port.
 Pin 2-3 shorted (Default): Enable wake-up function support at FP-USB3 port.

2.4.2 Front Panel Switches & Indicators Headers

This header is used for connecting switches and LED indicators on the chassis front panel.

Watch the power LED pin position and orientation. The mark “+” align to the pin in the figure below stands for positive polarity for the LED connection. Please pay attention to connect these headers. A wrong orientation will only cause the LED not lighting, but a wrong connection of the switches could cause system malfunction.



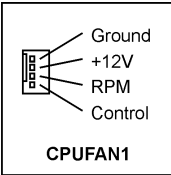
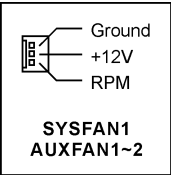
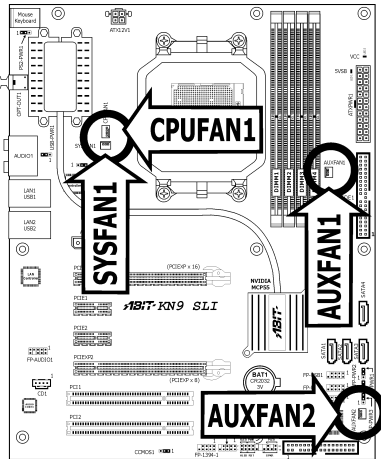
- **HLED (Pin 1, 3):**
Connects to the HDD LED cable of chassis front panel.
- **RST (Pin 5, 7):**
Connects to the Reset Switch cable of chassis front panel.
- **SPKR (Pin 13, 15, 17, 19):**
Connects to the System Speaker cable of chassis.
- **SLED (Pin 2, 4):**
Connects to the Suspend LED cable (if there is one) of chassis front panel.
- **PWR (Pin 6, 8):**
Connects to the Power Switch cable of chassis front panel.
- **PLED (Pin 16, 18, 20):**
Connects to the Power LED cable of chassis front panel.

2.4.3 FAN Power Connectors

These connectors each provide power to the cooling fans installed in your system.

- **CPUFAN1:** CPU Fan Power Connector
- **SYSFAN1:** System Fan Power Connector
- **AUXFAN1~2:** Auxiliary Fan Power Connector

※ **These fan connectors are not jumpers. DO NOT place jumper caps on these connectors.**



2.5 Installing Hardware

- ※ **DO NOT scratch the motherboard when installing hardware. An accidentally scratch of a tiny surface-mount component may seriously damage the motherboard.**

2.5.1 CPU Socket AM2

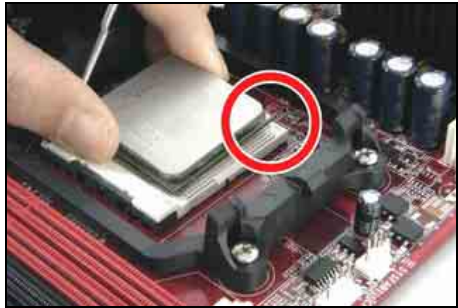
- ※ **DO NOT touch or bend the delicate pins on the CPU whenever you are holding it.**

The installation procedures vary with different types of CPU fan-and-heatsink assembly. The one shown here is served for **DEMO** only. For detailed information on how to install the one you bought, refer to its installation guidelines.

1. Pull out the socket lever away from the socket and fully lift it up over 90-degree angle.

Locate and align the triangle mark with both the CPU and the socket body. Vertically place the CPU with its pin-side down into the socket.

Be careful to insert the CPU into the socket. The CPU only fits in one orientation with the socket. **DO NOT** force the CPU into the socket.



2. After placing the CPU into position, push the socket lever down into its locked position to secure the CPU. The lever clicks when it's locked into position.



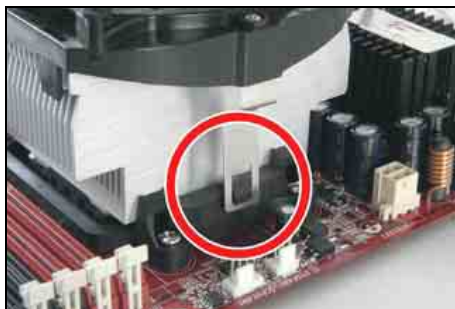
3. The heatsink for CPU may have thermal interface material attached to its bottom. If not, applying a few squeeze of thermal paste to the CPU die will help to increase the contact.



4. Place the heatsink and fan assembly onto the retention frame. Match the heatsink clip with the socket mounting-lug. Hook the spring clip to the mounting-lug.



5. On the other side, push the retention clip straight down to lock into the plastic lug on the retention frame.



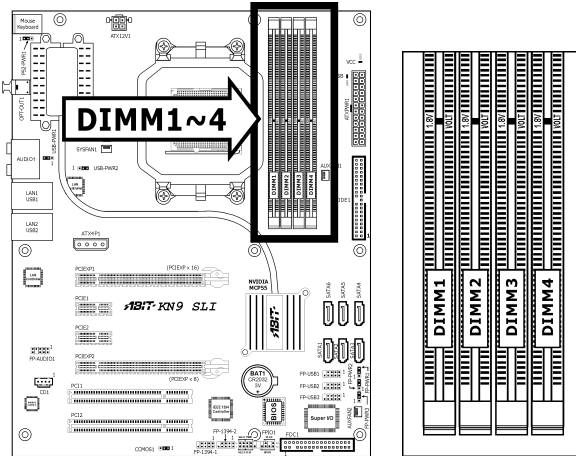
6. Connect the CPU cooling fan power cable to the CPUFAN1 connector on this motherboard.



- ※ The motherboard in this illustration is served for DEMO only, may not be the same type or model as the one described in this user's manual.
- ※ A higher fan speed will be helpful for better airflow and heat-dissipation. Nevertheless, stay alert to touch any heatsink since the high temperature generated by the working system is still possible.

2.5.2 DDR2 Memory Slots

This motherboard provides four 240-pin DIMM slots for Dual Channel DDR2 800 memory modules with memory expansion size up to 8GB.



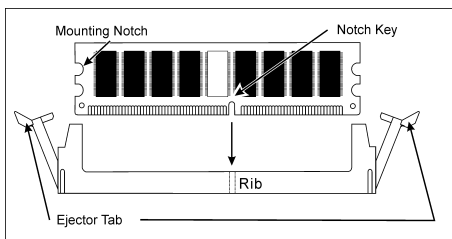
To reach the performance of Dual Channel DDR2, the following rules must be obeyed:

- **For a 2-DIMM dual-channel installation:**
Populate DIMM modules of the same type and size on slots [DIMM1]+[DIMM2], or slots [DIMM3]+[DIMM4].
 - **For a 4-DIMM dual-channel installation:**
Populate 2 DIMM modules of the same type and size on slots [DIMM1]+[DIMM2], and another 2 DIMM modules of the same type and size on slots [DIMM3]+[DIMM4].
- ※ [DIMM1] and [DIMM2] slots are made of the same color.
[DIMM3] and [DIMM4] are made of another same color.

Usually there is no hardware or BIOS setup requires after adding or removing memory modules, but you will have to clear the CMOS memory first if any memory module related problem occurs.

To install system memory:

1. Power off the computer and unplug the AC power cord before installing or removing memory modules.
 2. Locate the DIMM slot on the board.
 3. Hold two edges of the DIMM module carefully, keep away of touching its connectors.
 4. Align the notch key on the module with the rib on the slot.
 5. Firmly press the module into the slots until the ejector tabs at both sides of the slot automatically snaps into the mounting notch. Do not force the DIMM module in with extra force as the DIMM module only fit in one direction.
 6. To remove the DIMM modules, push the two ejector tabs on the slot outward simultaneously, and then pull out the DIMM module.
- ※ **Static electricity can damage the electronic components of the computer or optional boards. Before starting these procedures, ensure that you are discharged of static electricity by touching a grounded metal object briefly.**



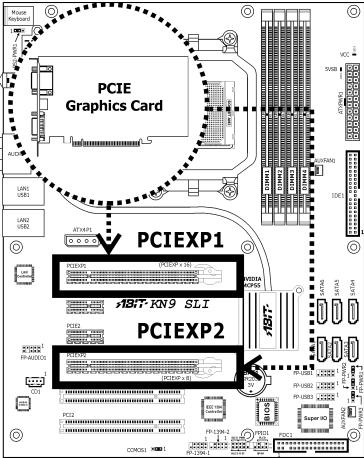
2.5.3 PCI Express X16 Add-on Slots (Install Graphics Card)

These slots support the connections of graphics cards that comply with PCI Express specifications. This motherboard provides dual PCI-Express X16 slots for one or two graphics cards installation:

One PCIE graphics card installation (Normal Mode):

Insert your PCIE graphics card into [PCIEXP1] or [PCIEXP2] slot.

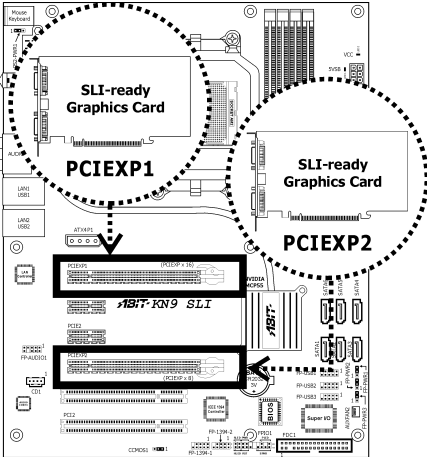
- ※ **One PCIE graphics card installation on the [PCIEXP2] slot supports the speed up to x8 only.**



Two PCIE graphics cards installation (SLI Mode): *(For model "KN9 SLI" only)*

Insert 2 identical SLI-ready graphics cards into PCIEXP1 and PCIEXP2 slots.

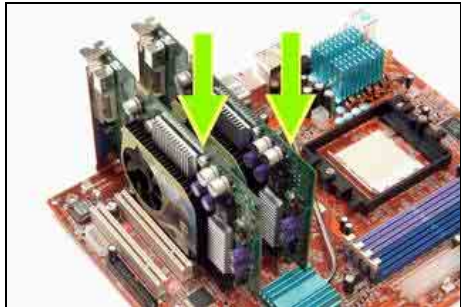
- ※ **The NVIDIA SLI technology currently supports the Windows XP operating system only.**



To install two SLI-ready graphics cards under SLI Mode, you will need to:

- Prepare two identical NVIDIA certified, SLI-ready PCI Express x16 graphics cards (the same model from the same manufacturer).
 - Make sure the graphics card driver supports the NVIDIA SLI technology. Download the latest driver from NVIDIA website (www.nvidia.com).
 - Make sure your power supply unit is sufficient to provide the minimum power required.
- ※ **The following illustration is served for DEMO only. All the devices, including the motherboard, the graphics cards, the SLI Bridge Connector, or the SLI bracket, may not be exactly the same type, shape, or model as the one you bought.**

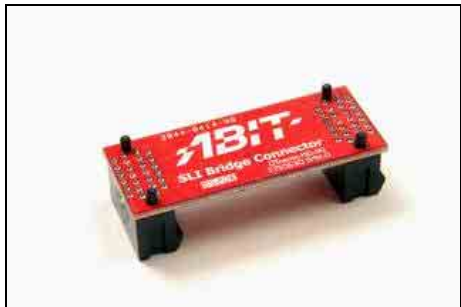
1. Insert the two graphics cards into PCIEXP1 and PCIEXP2 slots on the motherboard.



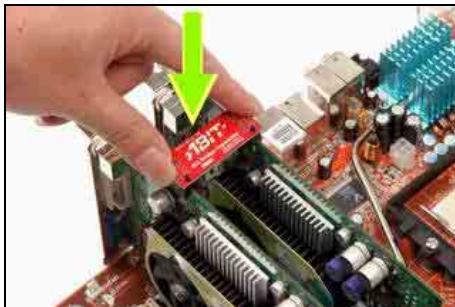
2. There are goldfingers on your SLI Graphics Cards reserved for the SLI Bridge Connector.



3. Locate the SLI Bridge Connector in the package.



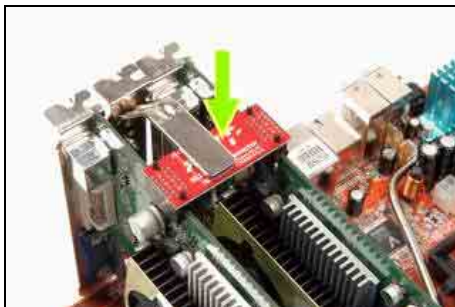
4. Insert the SLI Bridge Connector into the SLI goldfingers on each graphics card.



5. The SLI bracket included in the package is used for supporting the SLI bridge connector and the two SLI graphics cards.

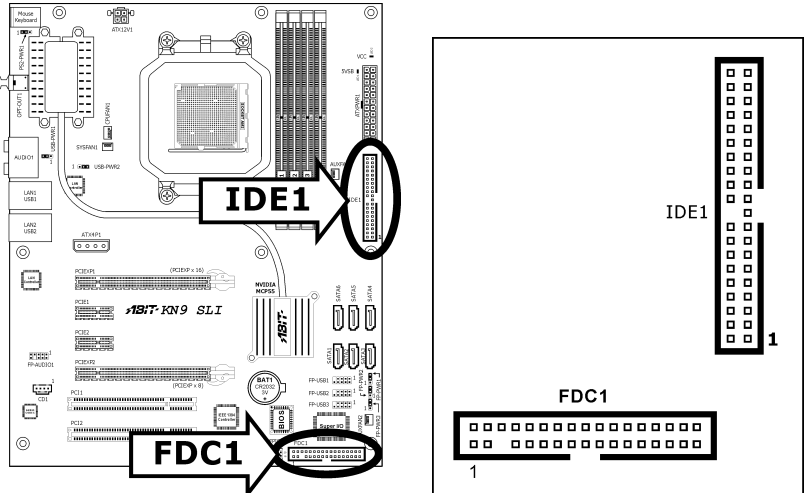


6. Insert the SLI bracket into the bracket slot between the graphics cards. Secure the SLI bracket and the graphics cards to the chassis with screws.



2.6 Connecting Peripheral Devices

2.6.1 Floppy and IDE Disk Drive Connectors

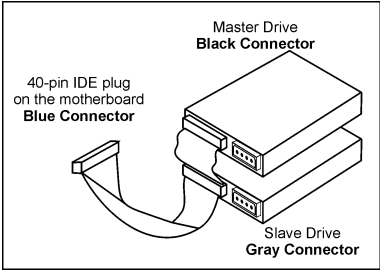


The FDC1 connector connects up to two floppy drives with a 34-wire, 2-connector floppy cable. Connect the single end at the longer length of ribbon cable to the FDC1 on the board, the two connectors on the other end to the floppy disk drives connector. Generally you need only one floppy disk drive in your system.

※ **The red line on the ribbon cable must be aligned with pin-1 on both the FDC1 port and the floppy connector.**

Each of the IDE port connects up to two IDE drives at Ultra ATA/100 mode by one 40-pin, 80-conductor, and 3-connector Ultra ATA/66 ribbon cables.

Connect the single end (blue connector) at the longer length of ribbon cable to the IDE port of this board, the other two ends (gray and black connector) at the shorter length of the ribbon cable to the connectors of your hard drives.



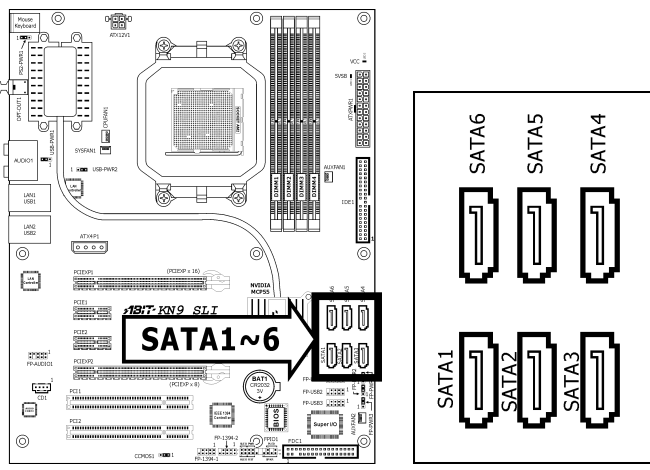
※ **Make sure to configure the “Master” and “Slave” relation before connecting two drives by one single ribbon cable. The red line on the ribbon cable must be aligned with pin-1 on both the IDE port and the hard-drive connector.**

2.6.2 Serial ATA Connectors

Each SATA connector serves as one single channel to connect one SATA device by a thin SATA cable.

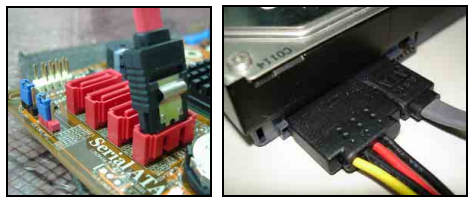
The RAID 0/1/0+1/5/JBOD configuration is also possible through the combination of disk arrays through these SATA connectors:

※ Both SATA 5 and SATA 6 are available only for models “KN9 SLI” and “KN9 Ultra”.



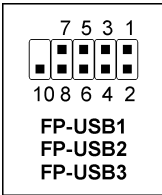
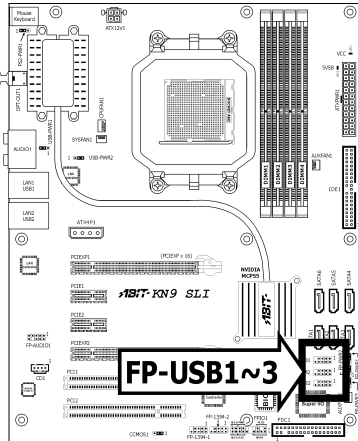
To connect SATA device:

1. Attach either end of the signal cable to the SATA connector on motherboard. Attach the other end to SATA device.
2. Attach the SATA power cable to the SATA device and connect the other end from the power supply.



2.6.3 Additional USB 2.0 Port Headers

Besides the 4x USB 2.0 ports located at rear I/O part, this motherboard also features 3x more USB 2.0 headers onboard. Each header supports 2x additional USB 2.0 ports by connecting bracket or cable to the rear I/O panel or the front-mounted USB ports of your chassis.



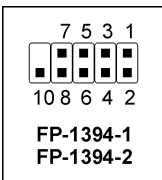
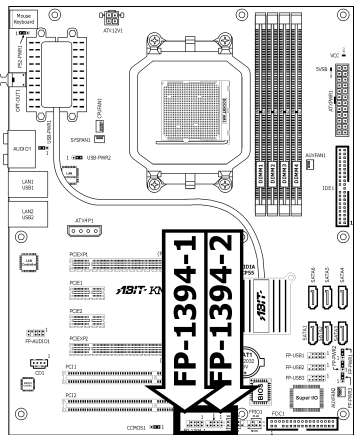
Pin	Pin Assignment	Pin	Pin Assignment
1	VCC	2	VCC
3	Data0 -	4	Data1 -
5	Data0 +	6	Data1 +
7	Ground	8	Ground
		10	NC

※ Make sure the connecting cable bears the same pin assignment.

2.6.4 Additional IEEE1394 Port Headers

Each header supports 1x additional IEEE1394 port by connecting bracket or cable to the rear I/O panel or the front-mounted IEEE1394 port of your chassis.

※ The IEEE1394 Port Headers are available only for models “KN9 SLI” and “KN9 Ultra”.

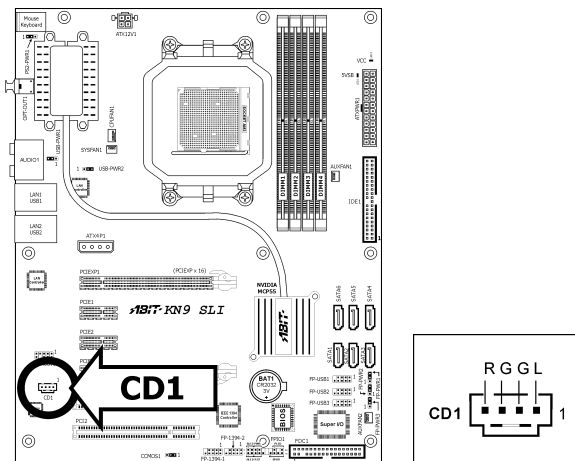


Pin	Pin Assignment	Pin	Pin Assignment
1	TPA0 +	2	TPA0 -
3	Ground	4	Ground
5	TPB0 +	6	TPB0 -
7	+12V	8	+12V
		10	Ground

※ Make sure the connecting cable bears the same pin assignment.

2.6.5 Internal Audio Connectors

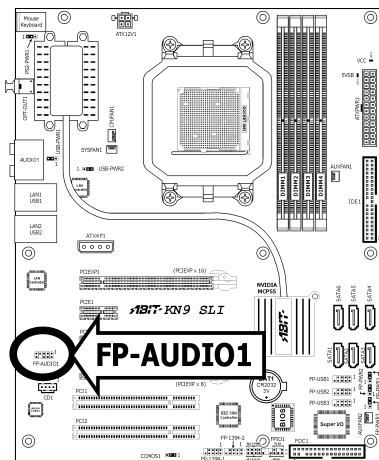
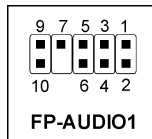
This connector connects to the audio output of internal CD-ROM drive or add-on card.



2.6.6 Front Panel Audio Connection Header

This header provides the front panel connection for HD (High Definition) Audio, yet for AC'97 Audio CODEC connection, you must carefully check the pin assignment before connecting from the front panel module. An incorrect connection may cause malfunction or even damage the motherboard.

※ Please do not connect the “Ground” cable or “USB VCC” cable from the front panel module to the Pin 4 “AVCC” of this header.




Pin	Pin Assignment (HD AUDIO)
1	MIC2 L
2	AGND
3	MIC2 R
4	AVCC
5	FRO-R
6	MIC2_JD
7	F_IO_SEN
9	FRO-L
10	LINE2_JD

Pin	Pin Assignment (AC'97 AUDIO)
1	MIC In
2	GND
3	MIC Power
4	NC
5	Line Out (R)
6	NC
7	NC
9	Line Out (L)
10	NC

Driver Configuration for AC'97 audio connection:

The audio driver is originally configured to support HD Audio. For AC'97 audio connection, you may:

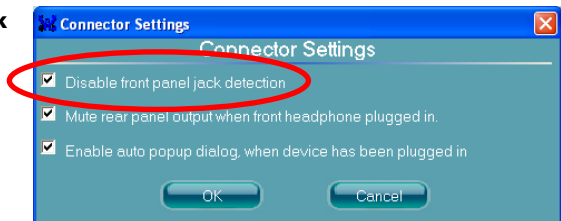
1. Right-click the "Realtek HD Audio Manager" icon  in system tray.



2. Click "Audio I/O" tab, and then click "Connector Settings".



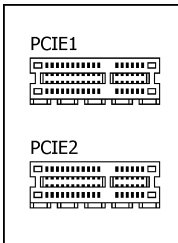
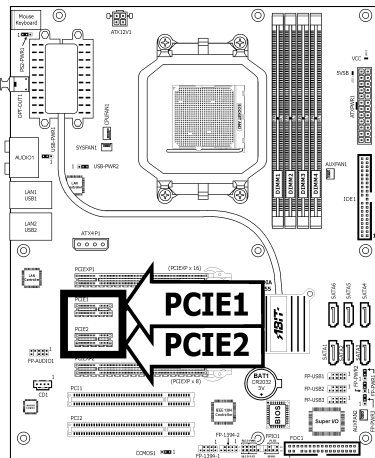
3. Click "**Disabled front panel jack detection**", and then click "OK" to confirm.



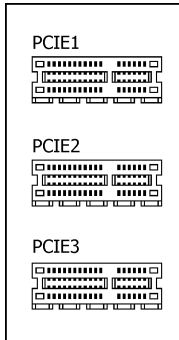
2.6.7 PCI Express X1 Add-on Slots

These slots provide the connection of add-on cards that comply with PCI Express specifications.

- **KN9 SLI:** PCIE1 ~ PCIE2
- **KN9 Ultra, KN9S:** PCIE1 ~ PCIE3



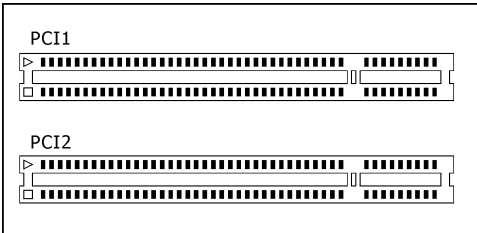
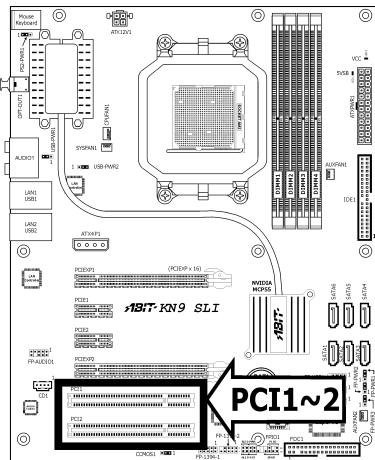
KN9 SLI



KN9 Ultra, KN9S

2.6.8 PCI Add-on Slots

These slots provide the connection of add-on cards that comply with PCI specifications.

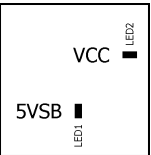
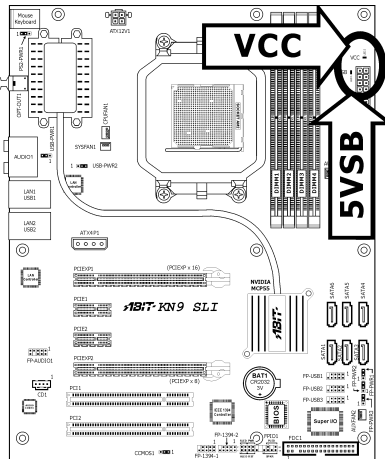


2.7 Onboard Status Display

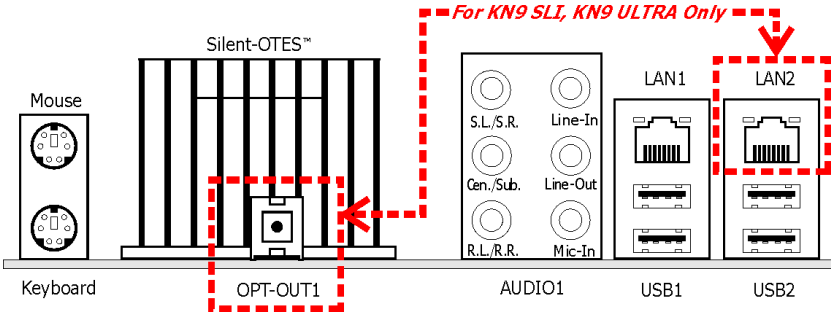
2.7.1 Power Source Indicators

These indicators work as a reminding device to display the power status of this motherboard with power source connected.

- **5VSB:** This LED lights up when the power supply is connected with power source.
- **VCC:** This LED lights up when the system power is on.



2.8 Connecting I/O Devices



- **Mouse:** Connects to PS/2 mouse.
- **Keyboard:** Connects to PS/2 keyboard.
- **Silent OTES™:** The Silent OTES™ (Silent Outside Thermal Exhaust System) is a device specifically designed to silently cool the motherboard's North Bridge chipset. (Keep the area for outgoing heat wave open.)
- **OPT-OUT1:** This connector provides an S/PDIF-Out connection through optical fiber to digital multimedia devices. *(For model "KN9 SLI" and "KN9 Ultra" only)*
- **AUDIO1:**
 - S.L./S.R. (Surround Left / Surround Right):** Connects to the surround left and surround right channel in the 7.1 channel audio system.
 - Cen./Sub. (Center / Subwoofer):** Connects to the center and subwoofer channel in the 7.1 channel audio system.
 - R.L./R.R. (Rear Left / Rear Right):** Connects to the rear left and rear right channel in the 7.1 channel audio system.
 - Line-In:** Connects to the line out from external audio sources.
 - Line-Out:** Connects to the front left and front right channel in the 7.1-channel or regular 2-channel audio system.
 - Mic-In:** Connects to the plug from external microphone.
- **LAN1:** Connects to Local Area Network.
- **LAN2:** Connects to Local Area Network. *(For model "KN9 SLI" and "KN9 Ultra" only)*
- **USB1/USB2:** Connects to USB devices such as scanner, digital speakers, monitor, mouse, keyboard, hub, digital camera, joystick etc.

[illegible]

3. BIOS Setup

This motherboard provides a programmable EEPROM that you can update the BIOS utility. The BIOS (Basic Input/Output System) is a program that deals with the basic level of communication between processor and peripherals. Use the BIOS Setup program only when installing motherboard, reconfiguring system, or prompted to "Run Setup". This chapter explains the Setup Utility of BIOS utility.

After powering up the system, the BIOS message appears on the screen, the memory count begins, and then the following message appears on the screen:

PRESS DEL TO ENTER SETUP

If this message disappears before you respond, restart the system by pressing <Ctrl> + <Alt> + keys, or by pressing the Reset button on computer chassis. Only when it failed by these two methods can you restart the system by powering it off and then back on.

After pressing key, the main menu screen appears.

Phoenix - AwardBIOS COMS Setup Utility	
<ul style="list-style-type: none">▶ SoftMenu Setup▶ Standard CMOS Features▶ Advanced BIOS Features▶ Advanced Chipset Features▶ Integrated Peripherals▶ Power Management Setup▶ PnP/PCI Configurations	<ul style="list-style-type: none">▶ PC Health StatusLoad Fail-Safe DefaultsLoad Optimized DefaultsSet PasswordSave & Exit SetupExit Without Saving
Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(NF-MCP55-6A61JA1AC-00)
Change CPU's Clock & Voltage	

※ In order to increase system stability and performance, our engineering staffs are constantly improving the BIOS menu. The BIOS setup screens and descriptions illustrated in this manual are for your reference only, and may not completely match with what you see on your screen.

3.1 SoftMenu Setup

This option configures the CPU's clock and voltage.

Phoenix - AwardBIOS CMOS Setup Utility		
SoftMenu Setup		
AMD Athlon(tm) 64 X2 Dual Core Processor 4800+		Item Help
Frequency : 2412MHz		
CPU Operating Speed	Default	
X - CPU External Clock(MHz)	200.0	
X - Multiplier Factor	x12	
X - PCIe Clock	100MHz	
Voltages Control	Default	
X - CPU Core Voltage	1.300 V	
X - DDR RAM Voltage	1.80 V	
X - DDR Ref Voltage	Default	
X - MCP55P Voltage	1.20V	
X - HyperTransport Voltage	1.20V	
↑ ↓ → ← : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help		
F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

3.2 Standard CMOS Features

This option configures the time, date, and hard disk type, etc.

Phoenix - AwardBIOS CMOS Setup Utility		
Standard CMOS Features		
Date (mm:dd:yy)	Fri. May 5 2006	Item Help
Time (hh:mm:ss)	23 : 59 : 59	
► IDE Channel 1 Master	None	
► IDE Channel 1 Slave	None	
► IDE Channel 3 Master	None	
► IDE Channel 4 Master	None	
► IDE Channel 5 Master	None	
► IDE Channel 6 Master	None	
► IDE Channel 7 Master	None	
► IDE Channel 8 Master	None	
Drive A	1.44M, 3.5 in.	
Floppy 3 Mode Support	Disabled	
Halt On	All, But keyboard	
Base Memory	640K	
Extended Memory	523264K	
Total Memory	524288K	
↑ ↓ → ← : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help		
F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

3.3 Advanced BIOS Features

This option configures the boot sequence.

Phoenix - AwardBIOS CMOS Setup Utility		
Advanced BIOS Features		
		Item Help
Quick Power on Self Test	Enabled	
► Hard Disk Boot Priority	Press Enter	
First Boot Device	Floppy	
Second Boot Device	Hard Disk	
Third Boot Device	CDROM	
Boot Other Device	Enabled	
Boot Up Floppy Seek	Disabled	
Boot Up NumLock Status	On	
Security Option	Setup	
MPS Version Ctrl For OS	1.4	
Delay IDE Initial(Secs)	0	
Full Screen LOGO Show	Enabled	
↑ ↓ → ← : Move Enter : Select +/- / PU / PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

3.4 Advanced Chipset Features

This option configures the DRAM timing.

Phoenix - AwardBIOS CMOS Setup Utility		
Advanced Chipset Features		
		Item Help
K8<->MCP55 HT Speed	Auto	
K8<->MCP55 HT Width	↓ 16 ↑ 16	
► DRAM Configuration	Press Enter	
HT Spread Spectrum	Disabled	
SSE/SSE2 Instructions	Enabled	
Init Display First	PCIEx-Master	
System BIOS Cacheable	Enabled	
↑ ↓ → ← : Move Enter : Select +/- / PU / PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

3.5 Integrated Peripherals

This option configures onboard device control.

Phoenix - AwardBIOS CMOS Setup Utility		
Integrated Peripherals		
► On-Chip IDE/RAID Function	Press Enter	Item Help
OnChip USB	V1.1+V2.0	
- USB Keyboard Support via	OS	
- USB Mouse Support via	OS	
On-Chip Audio Controller	Auto	
On-Chip LAN1 Controller	Auto	
On-Chip LAN Boot ROM	Disabled	
MAC Media Interface	Pin Strap	
On-Chip LAN2 Controller	Auto	
Onboard 1394 Controller	Enabled	
Onboard FDD Controller	Enabled	
↑ ↓ → ← : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

3.6 Power Management Setup

This option configures the power management.

Phoenix - AwardBIOS CMOS Setup Utility		
Power Management Setup		
ACPI Suspend Type	S3 (Suspend-To-RAM)	Item Help
- USB Resume from S3	Disabled	
Power Button Function	Instant-Off	
Wake Up by PME# of PCI	Disabled	
Wake Up by OnChip LAN	Disabled	
Wake Up by Alarm	Disabled	
X - Date of Month Alarm	0	
X - Time (hh:mm:ss) Alarm	0 : 0 : 0	
AMD K8 Cool'n'Quiet Control	Auto	
POWER ON Function	Button Only	
X - KB Power ON Password	Enter	
X - Hot Key Power ON	Ctrl-F1	
Restore on AC Power Loss	Power Off	
↑ ↓ → ← : Move Enter : Select +/- /PU/PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

3.7 PnP/PCI Configurations

This option configures the IRQ settings, latency timers, etc.

Phoenix - AwardBIOS CMOS Setup Utility		
PnP/PCI Configurations		
Resources Controlled By	Auto (ESCD)	Item Help
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	Disbaled	
** PCI Express relative items **		
Maximum Payload Size	4096	
↑ ↓ → ← : Move Enter : Select +/- / PU / PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

3.8 PC Health Status

This option displays CPU/system temperature, fan speed, and voltage.

Phoenix - AwardBIOS CMOS Setup Utility		
PC Health Status		
Shutdown Temperature	95°C/203°F	Item Help
CPU Warning Temperature	80°C/176°F	
FAN Fail Alarm Selectable	Disabled	
CPU FANEQ Control	Enabled	
- FanEQ Target Temperature	55°C/131°F	
- FanEQ Temp. Tolerance	5°C/ 41°F	
- FanEQ Start Control	80%	
- FanEQ Stop Control	50%	
CPU Temperature	35°C/ 95°F	
System Temperature	29°C/ 84°F	
PWM Temperature	33°C/ 91°F	
CPU FAN Speed	5625 RPM	
SYS FAN Speed	0 RPM	
AUX1 FAN Speed	0 RPM	
AUX2 FAN Speed	0 RPM	
CPU Core Voltage	1.36 V	
DDRII Voltage	1.79 V	
ATX +3.3V	3.31 V	
DDRII VTT Voltage	0.88 V	
PCIE Voltage	1.50 V	
ATX +12V	13.06 V	
ATX +5V	5.13 V	
↑ ↓ → ← : Move Enter : Select +/- / PU / PD : Value F10 : Save ESC : Exit F1 : General Help F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults		

3.9 Load Fail-Safe Defaults

This option loads the BIOS default values for the most stable, minimal-performance system operations.

3.10 Load Optimized Defaults

This option loads the BIOS default values that are factory settings for optimal-performance system operations.

3.11 Set Password

This option protects the BIOS configuration or restricts access to the computer itself.

3.12 Save & Exit Setup

This option saves your selections and exits the BIOS setup menu.

3.13 Exit Without Saving

This option exits the BIOS setup menu without saving any changes.

4. Driver & Utility CD

The "Driver & Utility CD" that came packed with this motherboard contains drivers, utilities and software applications required for its basic and advanced features.

Place the "Driver & Utility CD" into the CD-ROM drive in your system. The following installation auto-run screen appears. If not, browse the root directory of the CD-ROM via the File Manager, and double click the "AUTORUN" file.



- **[Drivers]:** Click to enter the driver installation menu.
- **[Manual]:** Click to enter the user's manual menu.
- **[Utility]:** Click to enter the utilities installation menu.
- **[ABIT Utility]:** Click on this tab to enter the menu for installing utilities exclusively developed by ABIT.
- **[Browse CD]:** Click to browse the contents of this "Driver & Utility CD".
- **[Close]:** Click to exit this installation menu.

[illegible]

5. Appendix

5.1 Troubleshooting (How to Get Technical Support?)

5.1.1 Q & A

Q: Do I need to clear the CMOS before I use a new motherboard to assemble my new computer system?

A: Yes, we highly recommend that you clear the CMOS before installing a new motherboard. Please move the CMOS jumper from its default 1-2 position to 2-3 for a few seconds, and then back. When you boot up your system for the first time, follow the instructions in the user's manual to load the optimized defaults.

Q: If my system hangs when I update the BIOS or set the wrong CPU parameters, what should I do?

A: Whenever you update the BIOS or if the system hangs due to wrong CPU parameters setting, always clear CMOS jumper before booting up again.

Q: Why does the system fail to boot up again right after a mechanical power-off?

A: Please keep a 30-second interval between each mechanical power On/Off.

Q: Why does the system fail to boot up and nothing displays on the screen after I did some over-clocking or non-standard settings inside the BIOS?

A: It should not cause hardware or permanent damage to motherboard when BIOS settings were changed from default to over-clocking or non-standard status.

We suggest the following three troubleshooting methods to discharge CMOS data, recover the hardware default status, and then making the motherboard work again. There is no need to bother returning the motherboard to where you bought it from or go through an RMA process.

Step 1. Switch off the power supply unit and then switch it on again after one minute. If there is no power-switch on the power supply unit, disconnect its power cord for one minute and then reconnect.

Press and hold the <Insert> key on the keyboard, and press the power-on button to boot up system. If it works, release the <Insert> key and hit key to enter the BIOS setup page to apply the correct settings.

If the situation remains the same, repeat the procedures in Step 1 for three times, or try Step 2.

Step 2. Switch off the power supply unit or disconnect the power cord. Open the chassis cover. Locate the CCMOS jumper near the button battery. Change the jumper position from default 1-2 to 2-3 for one minute to discharge the CMOS data, and then put it back to default 1-2 position.

Close the chassis and switch on the power supply unit or plug in the power cord. Press the power-on button to boot up system. If it works, hit key to enter the BIOS setup page to do the correct settings.

If the situation remains the same, try Step 3.

Step 3. The same procedure as Step 2, but while discharging the CMOS data, pull out the ATX power connectors from motherboard and remove the button battery during CMOS discharge.

Q: How to get a quick response for my request on technical support?

A: Please carry out a simple troubleshooting before sending "**Technical Support Form**":

System boot-up fails after the system had been assembled:

Check the motherboard's supporting specifications first to see if all the key components attached in your system can meet.

To do so, you may:

- ✎ Remove all the unnecessary add-on devices (except the CPU, VGA card, DRAM, and Power Supply), and then reboot.
- ✎ If the trouble still exists, try another VGA card of different brand/model to see if the system will start.
- ✎ If the trouble still exists, try another memory module of different brand/model.
- ✎ If the trouble still exists, try another CPU and Power Supply.

If the system runs successfully, shut it down and start re-installing the interface cards and devices that were previously installed in the system. Re-install and start the system one at a time until the system won't start.

Malfunction in the OS:

If the system hangs after resuming from S3 or some testing program, if the CPU cannot be recognized properly, if the display resolution mixed, or if a certain program cannot be executed, etc, you may:

- ✎ Upgrade the motherboard's latest BIOS version.
- ✎ Upgrade the add-on device's latest driver version.
- ✎ Check if there is any conflict in the "Control Panel/System Properties".

Q: How to fill in the "Technical Support Form"?

A: To fill in this "**Technical Support Form**", please refer to the following instructions:

- **Region:** Type in your country name.
- **E-mail:** Type in your contact E-mail information.
- **First name:** Type in your first name.
- **Last name:** Type in your last name.
- **Subject:** Type in the model name and the problem of your motherboard.
Example 1: AA8XE and SCSI 29160 malfunction
Example 2: AA8XE boot fails, POST code AF
Example 3: AA8XE (system hang when S3 resume)
- **Motherboard:** Type in the model name and revision number of your motherboard.
Example: AA8XE REV: 1.00
- **BIOS Version:** Type in the BIOS version of your motherboard. (You can find it on the screen during the POST sequence.)

- **CPU:** Type in the brand name and the speed (MHz) of your CPU. (Illustrate the over-clocking status if you had done so.)
Example: Intel 650 3.4GHz (OC FSB=220MHz)
- **Memory brand:** Type in the brand and model name of your memory module.
Example: Memory brand: Kingston (KVR533D2N4/1G)
- **Memory size:** Type in the size of your memory module.
Example: 512M* 4PCS
- **Memory configuration:** Type in the memory configuration in BIOS setting.
Example: Memory Timing: 2.5-3-3-7 @533MHz
- **Graphics information:** Note Graphics card's brand, model and driver version
- **Graphics card:** Type in the brand and model name of your graphics card.
Example: ATI RADEON X850 XT PE
- **Graphics driver version:** Type in the driver version of your graphics card
Example: Catalyst 5.12V
- **Power supply maker:** Type in the brand and model name of your power supply unit.
- **Power supply wattage:** Type in the power wattage of your power supply unit.
- **Storage devices:** Type in the brand and specifications of your HDD drive and quantity. Specify if it was inserted on IDE (Master or Slave) or SATA ports, including the RAID allocation status.
Example 1: WD Caviar WD600 60GB (on IDE2 master), Maxtor DiamondMax 10 SATA 300GB (on SATA 3)
Example 2: Maxtor DiamondMax 10 SATA 300GB *2 (on SATA 3, SATA 4 RAID 1)
- **Optical devices:** Type in the brand and specifications of your optical drives and quantity. Specify if it was inserted on IDE (Master or Slave) or SATA ports.
- **Other devices:** Indicate which add-on cards or USB devices that you *absolutely sure* are related to the problem. If you cannot identify the problem's origin, indicate all the add-on cards or USB devices inserted on your system.
Example: AHA 29160 (on PCI 2), Sandisk Cruzer mini 256MB USB Flash-disk.
- **Operating system:** Indicate which OS and language version
Example: Microsoft Windows XP SP2, English version
Example: Microsoft Media Center Edition 2005, Korean version
- **Problem description:** Describe the problem of your system configuration. Indicate the steps to duplicate problem if possible.

See the next page for a blank Technical Support Form, or visit our website to fill in the form on line (<http://www.abit.com.tw/page/en/contact/technical.php>).

Q. Is the motherboard dead? Do I need to return it to where I bought from or go through an RMA process?

A: After you had gone through the troubleshooting procedures, yet the problem still exists, or you find an evident damage on the motherboard. Please contact our RMA center.
(http://www2.abit.com.tw/page/en/contact/index.php?pFUN_KEY=18000&pTITLE_IMG)

5.1.2 Technical Support Form

Country:	
First name:	
Last Name:	
Subject:	
Motherboard:	
BIOS Version:	
CPU:	
Memory brand:	
Memory size:	
Memory configuration:	
Graphics card:	
Graphics driver version:	
Power supply maker:	
Power supply wattage:	
Storage devices:	
Optical devices:	
Other devices:	
Operating system:	
Problem description:	



5.1.3 UNIVERSAL ABIT Contact Information

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RMA Center: <http://rma.abit-usa.com>

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Przedstawicielstwo w Polsce, ul. Wita Stwosza 28, 50-149 Wrocław

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